Table A-13
Dependent Variable: A&E (independent)

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	18	462.75580	25.70866	132.665	0.0001
Error	8242	1597.18125	0.19379		
C Total	8260	2059.93705			

Root MSE	0.44021	R-square	0.2246
Dep Mean	0.47464	Adj R-sq	0.2230
C.V.	92.74630		

Parameter Estimates

Variable	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
Intercept	-0.196532	0.03790736	-5.185	0.0001
log(Stations)	-0.047074	0.01240639	-3.794	0.0001
Interconnect	-0.019758	0.01861411	-1.061	0.2885
Local Adv	0.072687	0.01450846	5.010	0.0001
log(Homes)	0.070071	0.00428362	16.358	0.0001
Capacity 24-35	0.182474	0.01445860	12.620	0.0001
Capacity 36-51	0.338899	0.01626685	20.834	0.0001
Capacity 52-61	0.349241	0.01931273	18.083	0.0001
Capacity 62-79	0.357997	0.03162287	11.321	0.0001
Capacity 80 +	0.338699	0.05532308	6.122	0.0001
TCI	0.076637	0.01712818	4.474	0.0001
Time Warner	0.110385	0.02474563	4.461	0.0001
Large MSO	0.068745	0.01076063	6.389	0.0001
South	-0.057954	0.02016315	-2.874	0.0041
Pacific	0.030570	0.02569936	1.190	0.2343
Midwest	0.006174	0.01954017	0.316	0.7521
South West	-0.053399	0.02247292	-2.376	0.0175
Mountain	-0.121279	0.02503851	-4.844	0.0001
Other Region	-0.065871	0.10871081	-0.606	0.5446

Table A-14
Dependent Variable: BET (Liberty)

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	18	337.51649	18.75092	205.398	0.0001
Error	8242	752.41790	0.09129		
C Total	8260	1089.93439			

Root MSE	0.30214	R-square	0.3097
Dep Mean	0.15640	Adj R-sq	0.3082
C.V.	193.18943		

Parameter Estimates

Variable	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
Intercept	-0.431035	0.02601812	-16.567	0.0001
log(Stations)	0.008751	0.00851526	1.028	0.3041
Interconnect	0.020903	0.01277600	1.636	0.1019
Local Adv	0.045309	0.00995804	4.550	0.0001
log(Homes)	0.055833	0.00294011	18.990	0.0001
Capacity 24-35	-0.000306	0.00992382	-0.031	0.9754
Capacity 36-51	0.053327	0.01116493	4.776	0.0001
Capacity 52-61	0.100027	0.01325550	7.546	0.0001
Capacity 62-79	0.126221	0.02170469	5.815	0.0001
Capacity 80 +	0.344074	0.03797159	9.061	0.0001
TCI	0.046788	0.01175611	3.980	0.0001
Time Warner	0.124296	0.01698443	7.318	0.0001
Large MSO	0.017439	0.00738568	2.361	0.0182
South	0.302050	0.01383920	21.826	0.0001
Pacific	0.012540	0.01763903	0.711	0.4772
Midwest	0.041511	0.01341161	3.095	0.0020
South West	0.103210	0.01542453	6.691	0.0001
Mountain	0.033632	0.01718545	1.957	0.0504
Other Region	-0.041514	0.07461484	-0.556	0.5780

Table A-15
Dependent Variable: American Movie Classics (Cablevision)

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	18	504.59858	28.03325	169.427	0.0001
Error	8242	1363.71397	0.16546		
C Total	8260	1868.31255			

Root MSE	0.40677	R-square	0.2701
Dep Mean	0.34560	Adj R-sq	0.2685
C.V.	117.69875		

Parameter Estimates

Variable	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
Intercept	-0.343234	0.03502741	-9.799	0.0001
log(Stations)	-0.011626	0.01146384	-1.014	0.3105
Interconnect	0.043690	0.01719994	2.540	0.0111
Local Adv	0.052386	0.01340621	3.908	0.0001
log(Homes)	0.056940	0.00395818	14.385	0.0001
Capacity 24-35	0.096700	0.01336014	7.238	0.0001
Capacity 36-51	0.250960	0.01503101	16.696	0.0001
Capacity 52-61	0.249749	0.01784548	13.995	0.0001
Capacity 62-79	0.259437	0.02922037	8.879	0.0001
Capacity 80 +	0.344533	0.05112000	6.740	0.0001
TCI	0.423481	0.01582690	26.757	0.0001
Time Warner	0.066301	0.02286562	2.900	0.0037
Large MSO	0.074934	0.00994311	7.536	0.0001
South	0.062402	0.01863129	3.349	0.0008
Pacific	0.009458	0.02374689	0.398	0.6904
Midwest	0.081825	0.01805564	4.532	0.0001
South West	0.026523	0.02076558	1.277	0.2015
Mountain	-0.003580	0.02313625	-0.155	0.8770
Other Region	-0.101295	0.10045170	-1.008	0.3133

Appendix B: Analysis of Local Cable Advertising

In this section, we analyze patterns in local advertising and demonstrate that such revenues accrue primarily to the largest MSOs. To the extent that these incremental benefits are shared by both operators and the network providers, they should affect patterns of license fees. In Table B-1, aggregate data for the cable industry are presented. Note the increasing importance of local advertising which is expected to represent over 8% of total advertising revenue by the year 2000.

Table B-1
Projected Revenue Growth for Cable Operators, 1993-2000

Revenue Source:	1993	1994	1995	1996	2000	1993-2000 Annual Growth
Basic sub rev	15,170	14,995	16,013	17,024	21,274	4.9%
Premium sub rev	4,493	4,786	5,121	5,421	6,639	5.7%
Pay per view rev	556	668	804	969	1,422	14.4%
Local advertising (net)	984	1,256	1,456	1,660	2,589	14.8%
Total	21,203	21,705	23,394	25,074	31,924	6.0%

Source: 1996 Paul Kagan Associates, Inc. Excludes home shopping, digital, telephone, and mini-pay revenues.

In Tables B-2 through B-4, we present several models of advertising, using survey data gathered by the Federal Communications Commission during their 1992 cable rate proceedings. Table B-2 provides estimates of the relationship between advertising sales volume for a cable operator and a set of explanatory variables. The estimates imply that the expected volume of advertising grows exponentially with the size of a system. For example, TCI affiliates typically have almost 200% more advertising revenues than smaller MSOs. Also, revenues rapidly increase with the size of a system. The coefficient indicates that a 100% increase in the number of homes passed results in over a 200% increase in advertising dollars.

For the smallest systems, local advertising is almost nonexistent. In Table B-3, we see that almost half the systems in the FCC sample reported no advertising dollars at all. In Table B-4, the results from a series of logistic regressions are also presented. These regressions express the probability of falling into various categories of advertising (from 1 to over 5%) as a function of independent factors, including system size and MSO affiliation. Simulations based on these estimates, reported in Table B-5, indicate that virtually all TCI affiliates and systems having more than 100,000 homes passed earn local advertising dollars. In contrast, small systems are unlikely to earn any at all.

Table B-2
Models of Advertising Sales Volume

Dependent Variables:	log(ad revenues) includes zeros	log(ad revenues) excludes zeros
Explanatory variables:		
intercept	-15.867***	-4.313***
log(households passed)	2.166***	1.313***
large mso, 100+ systems (0,1)	0.324	0.143
TCI affiliate (0,1)	1.633**	0.672*
headend age < 3 years (0,1)	0.261	0.856
headend age > 19 years (0,1)	0.072	-0.469
log(number of broadcast channels)	-1.695***	-0.623***
log(number of active channels)	1.760*	0.924
R-squared	.650	.713

* Significant at 10%
** Significant at 5%
*** Significant at 1%

Source: Data provided through 1992 FCC Survey of Cable Operators

Table B-3
Distribution of Advertising Revenues

Ad Revenue as % of Total	Percent of Sample, by Category
0% advertising	45.6 %
less than 1 %	19.0 %
between 1 and 5 %	29.1 %
greater than 5 %	6.3 %

Source: Data provided through 1992 FCC Survey of Cable Operators

Table B-4
The Importance of Advertising to Cable System Operators,
Logistic Models Predicting Percent Categories

Explanatory Variables:	Over 1 % of revenues from local ads (0,1)	% of revenues from ads > 0%, > 1%, > 5%
intercept(s)	-16.298***	> 0 < 1%, -17.922*** > 0 < 5%, -14.711*** > 0 %, -13.130***
log(households passed)	1.145***	0.950***
large MSO, 100+ systems (0,1)	0.555	0.216
TCI affiliate (0,1)	1.853***	1.541**
headend age < 3 years (0,1)	1.883**	0.211
headend age > 19 years (0,1)	-0.060	0.235
log(number of broadcast channels)	-1.407***	-1.160***
log(number of active channels)	2.145**	2.123***

* Significant at 10%
** Significant at 5%
*** Significant at 1%

Source: Data provided through 1992 FCC Survey of Cable Operators

Table B-5
Illustrative Model Simulations,
Importance of Advertising by System Characteristics

Scenario: Probability of advertising revenues greater than 1 %	
Base case[a]	44 %
System passes 100,000 homes	87 %
System passes 1,000 homes	3 %
TCI affiliation	83 %
System has 50 active channels	70 %
System carries 8 broadcast stations	28 %

[a]Base case is the prediction for an independent system that passes 15,000 homes and carries 30 active channels of which 4 are over the air broadcast stations.

In Table B-6, we use data on average license fees and other network characteristics to evaluate the role of local advertising revenues. The regressions link monthly license fees per subscriber with a set of independent variables, including the number of subscribers (in logarithmic form), the log of program costs, local ad dollars per sub, and variables indicating the importance of different program types for the networks' lineup. The model estimates suggest that a 10 cent increase in the per subscriber amount of local ad revenue can be linked with a 5.2 cent increase in the license fees earned by a network.

Thus, to the extent that large systems and MSO's earned virtually all the local advertising revenues, one would expect them to pay higher license fees, all things being equal.

Table B-6
Explaining Monthly License Fees Per Subscriber

Variable	Coefficient	Standard Error
Intercept	0.0704**	0.0288
year = 1991	0.0020	0.0102
year = 1992	0.0028	0.0102
year = 1993	0.0009	0.0103
year = 1994	0.0020	0.0119
year = 1995	0.0076	0.0119
log of subscribers (mil)	-0.0358***	0.0100
log of program costs (mil)	0.0353***	0.0052
negative cash flow = 1	-0.0229**	0.0099
local ad dollars per sub	0.5218***	0.0554
sports ads as % of all revenues	0.2181***	0.0152
movies as % of prime time	-0.0006	0.0181
syndicated programs as % of prime time	0.0258*	0.0140
Observations: 132		
Adjusted R-squared: .933		

Source: Paul Kagan , Assoc, *Economics of Basic Cable Networks*, 1998

* Indicates statistical significance at 90% confidence level
**Indicates statistical significance at 95% confidence level
*** Indicates statistical significance at 99% confidence level

Appendix C
Analysis of Competitive Effects

In Table C-1, we present the results of an analysis of 103 systems that face direct, face-to-face overbuild competition in their markets. The systems were identified from FCC documents and other sources, such as Warren *Publication's Television and Cable Factbook*, selected issues. Data on programming lineups, homes passed, and channel capacity were gathered from the *Factbook* and, in cases were entry was too recent for the system to be included in the directory, we directly obtained information from the systems.

The regression was a linear probability model for a dependent variable (0,1) indicating carriage of one of the 30 or so regional sports networks (Madison Square Garden, Fox Sports West I and II, Home Team Sports, New England Sports Channel, etc.). The regression results suggest that the probability of a large incumbent (one of the top-ten MSOs) carrying a sports channel is 25% higher after controlling for channel capacity, and the number of homes passed. Incumbents that were not affiliated with large MSOs did not have the same significantly higher probability.

Table C-1
Dependent Variable: Regional Sports Networks in Competitive Markets

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	2.67939	0.89313	4.797	0.0039
Error	84	15.63879	0.18618		
C Total	87	18.31818			

Root MSE	0.43148	R-square	0.1463
Dep Mean	0.70455	Adj R-sq	0.1158
C.V.	61.24250		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
Intercept		-0.570970	0.47022753	-1.214	0.2281
log(capacity)		0.272132	0.14419353	1.887	0.0626
large incumbent		0.251935	0.09588425	2.627	0.0102
log(homes)		0.005215	0.03026989	0.172	0.8636